34 Lecture - CS301

Important Mcqs

- 1. Which of the following is not a property of an equivalence relation?
 - a. Reflexivity
 - b. Symmetry
 - c. Transitivity
 - d. Antisymmetry

Answer: d. Antisymmetry

- 2. Which of the following is an example of an equivalence relation?
 - a. Greater than
 - b. Less than
 - c. Equality
 - d. Addition

Answer: c. Equality

- 3. An equivalence class is a set of elements that:
 - a. Have the same value
 - b. Are not related to each other
 - c. Have the same property
 - d. Have different properties

Answer: a. Have the same value

- 4. Which of the following is an example of a relation that is not an equivalence relation?
 - a. Greater than or equal to
 - b. Less than or equal to
 - c. Not equal to
 - d. None of the above

Answer: c. Not equal to

- 5. If xRy and yRz, then xRz is an example of which property of an equivalence relation?
 - a. Reflexivity
 - b. Symmetry
 - c. Transitivity
 - d. None of the above

Answer: c. Transitivity

- 6. Which of the following is an example of a partition of a set?
 - a. {1, 2, 3}, {4, 5}, {6, 7, 8}
 - b. {1, 3, 5}, {2, 4, 6}
 - c. {a, b, c}, {d, e}
 - d. All of the above

Answer: a. {1, 2, 3}, {4, 5}, {6, 7, 8}

- 7. An equivalence relation can be defined on which of the following sets?
 - a. Integers

- b. Rational numbers
- c. Real numbers
- d. All of the above

Answer: d. All of the above

8. Which of the following is a common use of equivalence relations in computer science?

- a. Database design
- b. Sorting algorithms
- c. Graph theory
- d. Cryptography

Answer: a. Database design

- 9. Which of the following is an example of a non-trivial equivalence relation?
 - a. Equality
 - b. Greater than
 - c. Less than
 - d. Congruence modulo n

Answer: d. Congruence modulo n

- 10. Which of the following is an example of an equivalence relation on a set of colors?
 - a. Lighter than
 - b. Darker than
 - c. Same hue
 - d. None of the above

Answer: c. Same hue